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Cancer Phenotype Profile which May Presage Bronchogenic Cancer.

The basic premise of this multidisciplinary three-year program is that a fundamental manifestation of neoplasia is the activation of embryonic, placental and fetal genes. The question of prime importance which arises from this premise is, "Do carcinoembryonic proteins appear in the bronchial epithelium of individuals destined to develop bronchogenic cancer?"

Standard conditions have been defined for securing satisfactory tracheobronchial cell suspensions for cytological, cytochemical, biochemical and radioimmunochemical studies. These include peroxidase-labeled antibody technique for Regan isoenzyme, immunoelectrophoretic tests for trophoblast alkaline phosphatase isoenzymes, and radioimmunoassay for Regan isoenzyme and human chorionic gonadotrophin.

An effort will be made to include radioimmunoassay measurements of α -fetoprotein and of carcinoembryonic antigen along with Regan isoenzyme and human chorionic gonadotrophin in the investigators' search for products of activation of embryonic genes in bronchial cells. In addition to cells collected at autopsy, bronchial washings and sputum, specimens will be examined for expression of embryonic genes in their cell populations.

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